for providing higher-definition full-color images. Therefore, developments of high-resolution printing heads, special media for ink-jet, which are high in glossiness, whiteness degree and absorbency, etc. are advancing rapidly. Since an ink-jet printing system is a non-contact printing system, plate-making is not required, and high-speed printing becomes feasible. Therefore, the ink-jet printing system is expected to be used in an increasing number of industrial applications.--

B1

Please substitute the paragraph starting at page 1, line 24 and ending at page 2, line 8 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

B2

--Many attempts to use pigments as coloring materials for inks in ink-jet recording have been recently made. The reason is that pigments are the best materials for imparting fastness properties such as water fastness and light fastness in an ink-jet system. Such ink-jet inks using such pigments are disclosed as water-based pigment inks satisfying basic properties such as print quality, ejection stability, shelf stability, resistance to clogging and fixing ability in Japanese Patent Application Laid-Open Nos. 2-255875, 6-99656, 4-57859 and 4-57860.--

Please substitute the paragraph starting at page 2, line 19 and ending at page 3, line 11 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--However, since most of such ink-receiving layers for ink-jet recording have been developed as special media for ink-jet printers using the conventional dye inks, their suitability for pigment inks is not considered. In glossy media in particular, a highly-absorbable water-soluble resin is often used as a main component for their ink-receiving layers. Such an ink-receiving layer involves a disadvantage that the ink-receiving layer itself has no water resistance, namely, that even when a pigment with good water resistance is used, the pigment runs out together with the ink-receiving layer, since the ink-receiving layer is soluble in water. Further, in an image portion formed with the pigment ink, a problem of rub-off resistance, more specifically, a problem arises that when the image portion is touched or rubbed with a finger, the color of the image is simply faded, or the image is stained. This phenomenon is particularly marked at a mixed-color portion of the color image in which the amount of inks applied is increased.--

B3

Please substitute the paragraph starting at page 3, line 12 and ending at line 18 with the following replacement

paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--As a current means for solving such a problem as described above, the whole surface of the recording medium with the color image is subjected to a post-treatment such as a laminating treatment. However, such a treatment is not always satisfactory from the viewpoints of cost, workability and the like, and it is desired that it shall be improved.--

Please substitute the paragraph starting at page 3, line 19 and ending at page 4, line 23 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--Some proposals have been made on ink-jet recording media for pigment inks. For example, Japanese Patent Application Laid-Open No. 9-123593 discloses that ink-jet recording is conducted with pigment inks on a highly-absorbable water-soluble receiving layer provided on a porous layer of alumina hydrate as an ink-jet recording medium for pigment inks. However, water among components of the pigment inks applied is absorbed into the porous layer of alumina hydrate, but pigments themselves are fixed to the water-soluble resin layer which is the uppermost layer. Therefore, such a problem of water fastness as described above remains unsolved after all. Japanese Patent Application

Laid-Open No. 10-119422 discloses that ink-jet recording is conducted with pigment inks on a carboxylated SBR resin layer provided on a porous layer containing alumina hydrate or silica. Since the carboxylated SBR resin layer is an ink-receiving layer with good affinity for non-aqueous inks, satisfactory suitability for water-based pigment inks is not to be expected. Japanese Patent Application Laid-Open No. 10-67168 discloses that a porous layer containing silica or alumina is provided on a base material (cellulose paper, synthetic paper or the like) having porosity, and ink-jet recording is conducted with pigment inks thereon. However, the structure of the base material is limited to that having porosity in which liquid components in the inks can be absorbed. In addition, image properties when a full-color image, in which the amount of inks applied increases, is recorded, particularly, rub-off resistance at an image portion, and the like are not known.--

Please substitute the paragraph starting at page 7, line 8 and ending at line 16 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--In order to improve adhesion to the ink-receiving layer, the surface of the base material may be subjected to a surface treatment such as a corona discharge treatment, or an

easy-adhesion layer may be provided as an undercoat on the surface. Further, a curl-preventing layer such as a resin layer or a pigment layer for preventing curling may be provided on the back surface of the base material or at a desired position thereof.--

Please substitute the paragraph starting at page 9, line 9 and ending at line 17 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--In the case of a pigment ink in particular, the pigment is present in a state of a great number of particles having a particle diameter distribution, unlike a dye. Therefore, causing these pigment particles to penetrate voids in the ink-absorbing layer to some extent becomes a useful means for improving the rub-off resistance. Even from this point of view, it is strongly desired that the pore volume shall be at least 0.1 ml/g.--

Please substitute the paragraph starting at page 9, line 18 and ending at line 27 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--The BET specific surface area of the ink-receiving layer is preferably within a range of from 20 to 450 m^2/g. If the BET specific surface area is smaller than the lower limit of the above range, sufficient glossiness may not be achieved in such an ink-receiving layer, and its haze may increase, so that an image formed thereon may tend to have a white haze. If the BET specific surface area is greater than the upper limit of the above range, such an ink-receiving layer may readily undergo cracking in some cases.--

B5

Please substitute the paragraph starting at page 10, line 10 and ending at line 20 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

B6

--The alumina hydrate is preferably in the form of porous particles, and the particle diameter thereof is preferably 20 to 500 nm. If alumina hydrate having a particle diameter smaller than the lower limit of the above range is used, the resulting ink-receiving layer may become cracked easily in some cases. If alumina hydrate having a particle diameter greater than the upper limit of the above range is used, the surface smoothness of the resulting ink-receiving layer is lowered, and an optical image formed thereon may become whitish as a whole in some cases.--

Please substitute the paragraph starting at page 11, line 23 and ending at page 12, line 9 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--If the lowest film-forming temperature or the glass transition temperature is higher than the upper limit of either of the above ranges, on the other hand, problems such as deformation of the base material may arise in a heating and drying temperature range necessary for sufficient film formation. More specifically, film-forming ability by fusion bonding among emulsion particles is lowered in drying (under heat) at a low temperature at which the base material is not deformed, which may cause such problems that cracking occurs on the resulting ink-receiving layer, and pores having a large diameter are formed, so that an image formed on the ink-receiving layer tends to have a white haze as a whole.--

Please substitute the paragraph starting at page 12, line 10 and ending at line 20 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--On the other hand, the particle diameter of the resin particles dispersed in the emulsion preferably falls within a range of, for example, from 0.07 to 0.7 μm. If the particle

diameter is smaller than the lower limit of the above range, the formation of good pores may not be achieved in some cases. If the particle diameter is greater than the upper limit of the above range on the other hand, the diameter of pores formed becomes too large, which may cause a problem that an image formed on the resulting ink-receiving layer tends to have a white haze as a whole.--

Please substitute the paragraph starting at page 15, line 12 and ending at line 27 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--If pigment particles having a particle diameter greater than 500 nm are present at such a level as to be detected by a general particle diameter distribution meter, or pigment particles having a particle diameter ranging from 300 to 500 nm are present in a proportion higher than 30% based on the total number of particles of the pigment, such pigment particles are unlikely to penetrate into voids in the porous ink-receiving layer of the recording medium used in the present invention, so that the amount of the pigment particles remaining on the surface of the ink-receiving layer is increased. As a result, a problem of rub-off resistance that when an image formed on the ink-receiving layer with such an ink is lightly touched or rubbed

with a finger, the color of the image is faded, or the image is stained, becomes recognizable.--

Please substitute the paragraph starting at page 16, line 1 and ending at line 14 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--In the water-based pigment inks according to the present invention, a resin component is contained. The problem of the rub-off resistance that occurs due to the causes described above is improved by defining the preferred particle diameter of the pigment particles in the present invention. However, it is impossible to make all the pigment particles penetrate into voids under any conditions. Therefore, a sufficient effect may not be always achieved in some cases. Accordingly, the resin component having film-forming ability for fixing the pigment is contained in an ink in the present invention to fix the pigment remaining on the surface of the ink-receiving layer by this resin after drying.--

Please substitute the paragraph starting at page 18, line 3 and ending at line 15 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--In the present invention, the resin component described above is preferably contained within a range of from 0.001 to 10 % by weight based on the total weight of the ink. If the content is lower than 0.001 % by weight, the improving effect on rub-off resistance may be made small because the formation of a film by such a resin becomes insufficient. If the content is higher than 10 % by weight, the viscosity of the resulting ink becomes extremely high, so that normal ejection of ink droplets from a recording head may become difficult in some cases. The preferable content of the resin component is within a range of from 0.005 to 5 % by weight.--

Please substitute the paragraph starting at page 20, line 21 and ending at page 21, line 2 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--The water-based pigment inks of plural colors according to the present invention comprise the pigment and dispersing agent described above and an aqueous medium for dispersing them therein. A preferable aqueous medium used in this case is water or a mixed solvent of water and a water-soluble organic solvent. The content of water in the inks used in the present invention is within a range of generally from 20 to 90 % by weight, preferably from 30 to 70 % by weight.--

Please substitute the paragraph starting at page 21, line 3 and ending at line 15 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--Water-soluble organic solvents usable in combination with water in the present invention may be divided into the following three groups. Namely, they are solvents of the first group, which are high in moisture retention, difficult to be evaporated and excellent in hydrophilicity; solvents of the second group, which have organicity and good wettability with a hydrophilic surface and also have dryability by evaporation; and solvents of the third group, which have moderate wettability and a low viscosity. In the present invention, the solvent may be suitably selected from among these solvents as necessary for the end application intended.--

Please substitute the paragraph starting at page 23, line 6 and ending at line 9 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--The total amount of such water-soluble organic solvents as described above is within a range of generally from 5 to 40 % by weight based on the total weight of the ink.--

Please substitute the paragraph starting at page 24, line 11 and ending at line 17 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--The present invention will hereinafter be described more specifically by the following Examples. However, the present invention is not limited to these examples. Incidentally, proportions and all designations of "part(s)" or "%" as will be used in the following examples are expressed by weight unless expressly noted.--

B13

Please substitute the paragraph starting at page 35, line 6 and ending at line 16 with the following replacement paragraph. A marked-up copy of this paragraph, showing the changes made thereto, is attached.

--Bubble-jet cartridges for yellow, magenta and cyan inks having 128 nozzles at 360 dpi were charged with the inks of the respective colors used in the Examples and Comparative Examples and installed in a BJ-W 7000 printer (manufactured by Canon Inc.). A full-color image formed by the yellow, magenta and cyan colors and mixed colors thereof was recorded on the recording medium used in each of the Examples and Comparative Examples to evaluate the inks and recording media as to the

B14